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mollusk opened its shell and released the imprisoned foot. Mr. Barry afterwards learned from boys of the neighborhood that the same Duck had been noticed flying about on several mornings and evenings previous to the day upon which he shot it. The clam was probably clinging to the Duck's foot at that time, and had not released its grip even when the Duck lit upon the water, as it must frequently have done in the intervals of time between observation.—J. WALTER FEWKES, *Cambridge, Mass.*

**The Lesser Glaucous-winged Gull in New York.**—On January 28, 1884, Mr. Edward Root, of Green Island, N. Y., brought to me a Gull, fresh in the flesh, and said he shot it the day before as it sat on the ice by a rift of open water in the Mohawk River, near its junction with the Hudson—at about latitude  $42^{\circ} 46'$ . The weather had been very cold for about a month. The bird was thin in flesh, weighed only 21 ounces, and had in its stomach merely a few grains of gravel.

When I received the bird the color of its irides was pale grayish brown; of its bill, light watery yellow, with a greenish shade near the base, and a small red spot in a little cloud of dusky on each side of the lower mandible above the angle. The legs and feet were flesh color.

Its measurements were: Length, 23.00 inches; extent, 51.75; wing, 15.75; bill, 1.60; from nostril, .80; from gape, 2.60; height at nostril, .60; at angle, .63; tarsus, 2.20; middle toe and claw, 2.25; tail, 7.00; wings beyond tail, 1.50; diameter of iris, .36.

The bird was a female, and its ovary showed that it had passed through at least one breeding season, and was not very old. In size, plumage, coloration, and wing-markings it seemed similar to the Gulls recently described by Mr. William Brewster (*Bull. Nutt. Orn. Club*, Vol. VIII, pp. 216-219); and upon submitting the mounted bird to him for examination he informed me that it is what he has named *Larus kumlieni*.—AUSTIN F. PARK, *Troy, N. Y.*

[The specimen above referred to is most nearly like Mr. Welch's, among the four which I have previously seen. The blue of the mantle is similarly deep, and the slate-gray of the primaries perhaps even more extended, the first three feathers having their outer webs almost wholly dark, except terminally, where the characteristic white apical spots, although present, are unusually restricted. In these respects the bird extends the series of known specimens (five in number) a little further towards *glaucescens* proper, thus increasing the probability that *kumlieni* may prove eventually to be merely a geographical race of that species. Nevertheless this is still only a probability, for a wide gap remains to be bridged before the two can be united as conspecies. I may add that Mr. Park's specimen has an unusually short, stout bill, which is further peculiar in having the superior outline of the maxilla almost perfectly straight from the base to the angle.—WILLIAM BREWSTER.]

**The Occipital Style of the Cormorant.**—This style, which in skeletons is found articulated with the occiput, is in reality the ossified raphe of

the temporal muscles (Owen, Anat., II, 93). Finding upon dissection of a young Cormorant the raphe but slightly ossified, I would make the following suggestion of its evolution. In some birds, especially those with small crania, the temporal muscles meet in the median line over the occiput. In the Cormorant we find this carried to an extreme, the muscles extending back for about an inch over the nape of the neck. This increase in the size, and consequently in the power of the temporal muscles, is evidently of great advantage to a bird of the Cormorant's habits. But were the muscles not held in place, they would slide over the occiput with the first contraction. This could have been avoided by the muscles being attached to the vertebræ, or to a theoretical ligamentum nuchæ. But such an origin would have bound the head in extension, a condition incompatible with the life of the bird. We therefore find the only other possible contrivance, a solid guy, extending from the cranium. This guy has been made by the conversion of the fibrous raphe into bone. In young Cormorants the raphe, though dense, is not ossified. Were the guy represented by a spinous outgrowth from the skull, motion of the head upon the neck would be seriously impaired, as the spine is fastened down to the neck by fascia and the skin. Therefore we find a ball and socket joint developed between the spine and the cranium.

This beautiful adaptation of limited material to a given end points strongly to a Lamarkian mode of development; its development by gradual selection is hard to understand. When we consider that demand upon a muscle leads to its increased size; that bone is frequently formed in tendons—and such the raphe is—to meet mechanical needs; that bursæ form in connective tissue at points of friction, we see how all may be the direct result of demand upon the temporal muscles. Once given the structure, natural selection comes into play in the increase of Cormorants; but first cause and the means by which the results of a first cause are maintained should never be confounded.

Finally, this bone, as the result of ossification of a common tendon of a pair of muscles, is an anatomical rarity.—J. AMORY JEFFRIES, *Boston, Mass.*

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## CORRESPONDENCE.

[Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.]

### Trinomials Are Necessary.

TO THE EDITORS OF THE AUK:—

Sirs: Referring to Mr. Chamberlain's timely query, 'Are Trinomials Necessary?' in the January number of this periodical, I beg to say a word by way of supplementing Mr. Allen's excellent remarks upon this interesting question. He has covered the ground so well that, in heartily endorsing the tenor and substance of all he has said, I only wish to add